

Geotropic stimulation and position.—CZAPEK⁷ has replied to FITTING with a paper which is largely a comparative study of the methods and results of the workers in this problem. The author concedes to FITTING that in many cases stronger stimulation occurs at 90° than at 135°. On the other hand, FITTING's conclusion that 45° above the horizontal and 45° below are equivalent positions is rejected. The reaction time is found to be practically the same at deviations between 20° and 160°, but is noticeably longer either above or below those limits. The method of anti-ferment reaction shows that the stimulation is clearly less at 45° below than at 45° above. In the inverse position there is no anti-ferment reaction. Just how much significance is to be attributed to the results of this method the reviewer cannot say. CZAPEK believes that in spite of all the investigation of this problem a satisfactory solution is still in the future.—RAYMOND H. POND.

Chemistry of germination.—ZALESKI has studied certain changes that occur in the proteids of germinating seeds and contributes these points. The phosphorus-containing proteids and phosphatids (chiefly lecithin) are very quickly and almost totally decomposed by an enzyme, with the formation of "inorganic" phosphates, only 2 per cent. remaining unattacked. These bodies are apparently nucleo-albumins (phytovitellins). What the enzyme is, whether trypsin or a special one, remains to be investigated.⁸ The formation of asparagin, like the proteid decomposition, is an enzymic process, proteolysis yielding material which forms asparagin in an unknown way and independent of temperature changes, at least in the later stages of germination. The nature of this process is to be further studied by the author.⁹—C. R. B.

Absorption of solutes by soils.—Bulletin 32 of the Bureau of Soils¹⁰ is consistent with the high standard established by the previous publications of the Bureau. SCHREINER and FAILYER find as a general law in the case of phosphates that the amount of solute a given soil will withdraw from solution percolating through it is proportional to the quantity which the soil is still capable of absorbing.—RAYMOND H. POND.

⁷ CZAPEK, FRIEDRICH, Die Wirkung verschiedener Neigungslagen auf den Geotropismus parallelotroper Organe. *Jahrb. Wiss. Bot.* 43:145-175. 1906.

⁸ ZALESKI, W., Über die Rolle der Enzyme bei der Umwandlung organischer Phosphorverbindungen in keimenden Samen. *Ber. Deutsch. Bot. Gesells.* 24:285-291. 1906.

⁹ ———, Zur Frage über den Einfluss der Temperatur auf die Eiweisszersetzung und Asparaginbildung der Samen während der Keimung. *Ber. Deutsch. Bot. Gesells.* 24:292-5. 1906.

These two titles are excellent examples of over-minuteness—a fault to be avoided for the sake of those who have to cite the papers in future years.

¹⁰ SCHREINER, OSWALD, and FAILYER, GEORGE H., The absorption of phosphates and potassium by soils. Bureau of Soils, U. S. Department of Agriculture, Bull. 32. 1906.